

FIG. 1 Prior Art

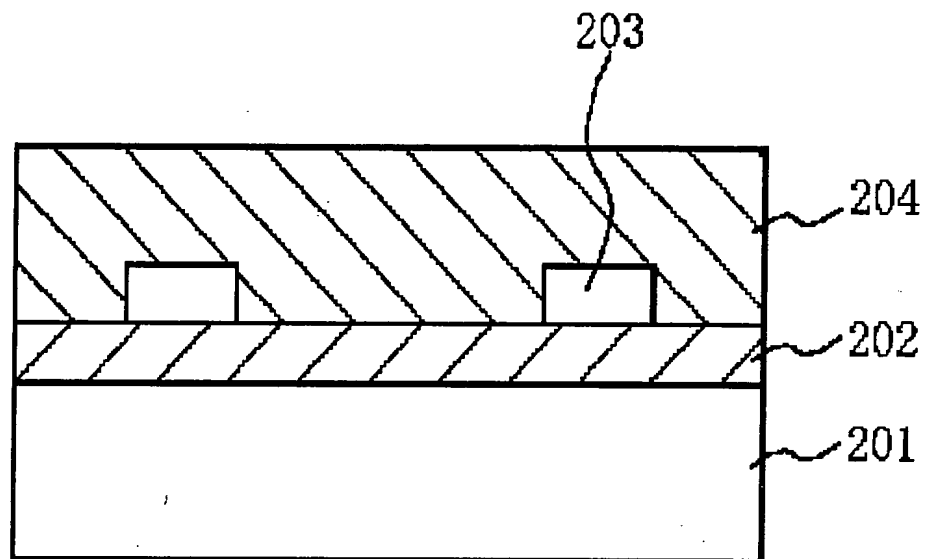


FIG. 2

CONSTITUTIVE MATERIAL	THERMAL EXPANSION COEFFICIENT
SiO <sub>2</sub>	0.528
SiN	2.791
SiON	2.708
SiC	7.412
SiCN	4.885
L-Ox(SiOH)	17.189
SiOC	11

[ $\times 10^{-6}/K$ ]

FIG. 3

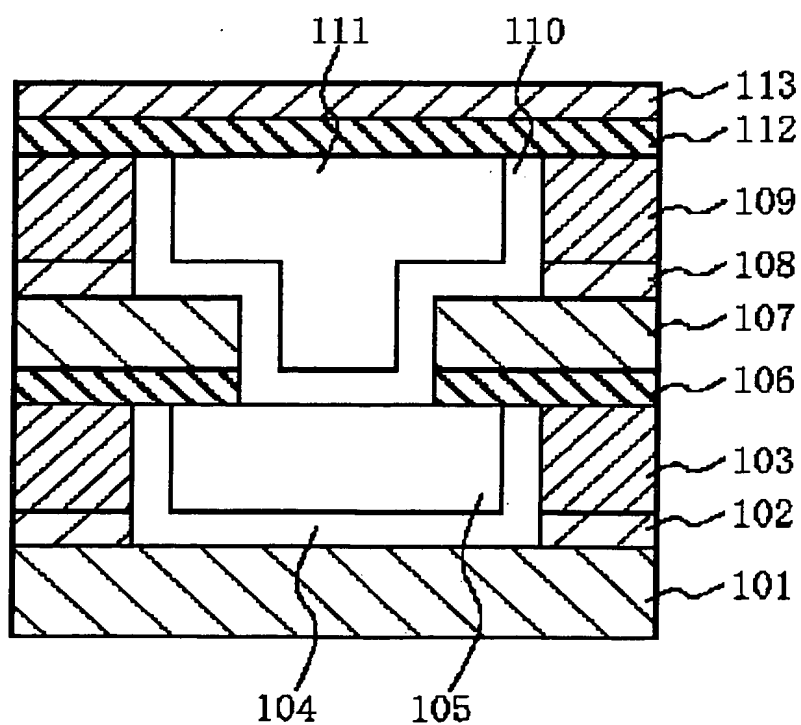


FIG. 4

PATTERN	INTERLAYER FILM STRUCTURE (cap/IMD/stopper/ILD)	STRESS [MPa]	RESISTANCE CHANGE [%]
1	SiN/SiO <sub>2</sub> /SiON/SiO <sub>2</sub>	65.7	30
2	SiN/L-Ox/SiON/SiO <sub>2</sub>	45.2	20
3	SiN/L-Ox/SiC/SiO <sub>2</sub>	42.9	8
4	SiN/L-Ox/stopperless/SiO <sub>2</sub>	39.0	4

FIG. 5

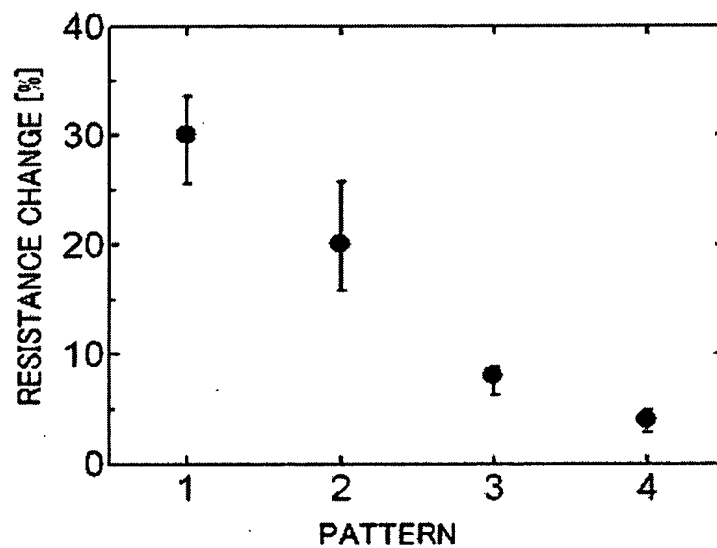


FIG. 6

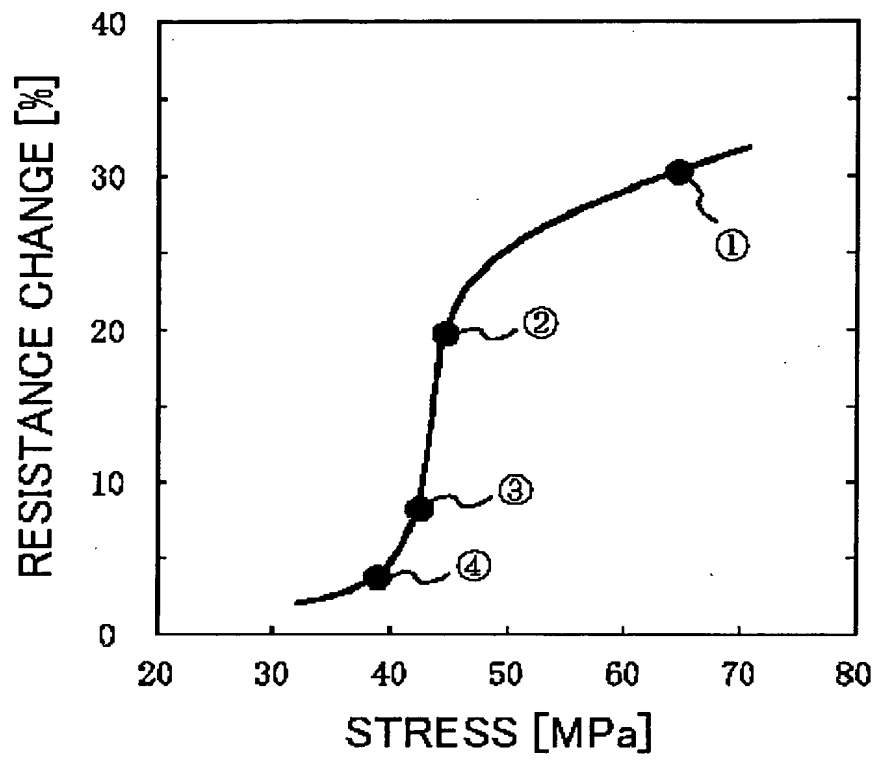


FIG. 7

